INDIANA STANDARDS

FOR

CAREER AND TECHNICAL PROGRAMS

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** Agricultural Science and Business, Business Education, Family and Consumer Sciences, Health Careers Education, Marketing Education, Occupational Family and Consumer Sciences, and Trade and Industrial Education

Introduction

The world is constantly changing. In order for students to succeed in school, at work, and in the community, they will need more skills and knowledge than ever before. To meet these challenges, Indiana has established standards to help schools design and implement new career and technical education programs.

Local school personnel are expected to use these standards as they plan and develop new course offerings in career and technical education. These standards describe the minimum expectations for programs and courses designed to prepare students to meet post-high school career goals.

Indiana's Career and Technical Program Standards

This document was developed in response to the General Assembly's direction to "establish minimum standards for student safety, advisory committees, teacher licensing . . ., and curriculum for the secondary level vocational education courses." (Public Law 40-2002). The Indiana Department of Education (IDOE), in cooperation with the Indiana Association of Area Vocational Directors (IAAVD), developed these standards with assistance from Indiana teachers, community members, professional affiliates, post-secondary individuals, and business and industry consultants. Public comment was also encouraged via the department's web site. The State Board of Education adopted these standards in December, 2002.

These standards identify characteristics of quality programs that:

- prepare students for both college admission and entry into the workplace;
- help students confirm or re-evaluate initial career choices;
- provide students with direction for further education and training;
- reinforce and extend learning of essential skills in mathematics, English/language arts, science, and social studies; and
- provide opportunities to graduate from high school with both a diploma and a certificate recognized by business and industry.

This document contains standards that apply to all career and technical programs. Additional assistance for local planning and implementation is available from the Office of Career and Technical Education, Indiana Department of Education.

Content Standards for Career and Technical Courses

While these standards set expectations for design and implementation of career and technical programs, ***content standards*** continue to be developed that describe what students should know and be able to do after completing a specific course. Curriculum content standards are currently available on the Department of Education web site at www.doe.state.in.us/octe.

The Importance of Parent, Student, and Community Involvement

Standards that define world-class career and technical programs pose a challenge. However, schools that involve students, parents, employers, and community members in all stages of planning can be sure that new courses meet the needs and interests of learners and the demands of the workplace.

Addressing the standards contained in this document, as well as the curriculum content standards available on the web site, creates a win-win situation. Local governing bodies understand the unique aspects involved in offering career and technical courses. Business and industry representatives become active partners in the educational process. Parents can participate in discussions about career objectives with their children. Teachers have clear targets and students know what is expected.

More than a checklist, these standards provide a comprehensive look at how career and technical programs are developed and implemented. Use of these standards will encourage quality and consistency across the state and encourage the development of courses that prepare students for the future.

Meeting the Challenge

The demand is greater than ever for people who can read, write, communicate effectively, analyze problems and set priorities, be open to learning, take initiative, and work in teams. Technology has already transported us into a time where the next e-commerce opportunity is limited only by our imagination. With these new career and technical standards, students in Indiana will be better prepared to meet the challenges of a technology-driven workplace. For additional information and resources, visit the Office of Career and Technical Education web site at www.doe.state.in.us/octe and the Indiana Association of Area Vocational Districts web site at www.iaavdinc.org.

Accountability System for Career and Technical Education

Career and technical education students need to master technical skills and knowledge and develop the ability to apply communication, mathematics, social studies, and science concepts in workplace settings. Understanding the degree to which students successfully learn these skills and concepts is important for improving and expanding programs. Indiana's statewide system of accountability for career and technical education is driven by Core Indicators of Performance, mandated by the Carl D. Perkins Vocational and Technical Education Act of 1998 (Perkins III). Core Indicators and expected levels of performance for career and technical education programs during school year 2001-02 were as follows:

Core Indicator	Measurement Definition	Expected Performance Level
Academic Attainment	Number of career and technical students who passed the ISTEP+ Graduation Qualifying Exam and have left secondary education in the reporting year.	78.85%
Skill Attainment	Number of students who passed a career and technical education program skills test and have left secondary education in the reporting year.	84.35%
Completion	Number of career and technical program completers who have attained a high school diploma or its recognized equivalent and who have left secondary education in the reporting year.	85.86%
Placement	Number of students who completed a career and technical education program and received a diploma or its equivalent in the reporting year AND were placed in further education or advanced training, employment, and/or military service.	80.53%
Non-traditional Participation	Number of students in under-represented groups who participated in a non-traditional secondary career and technical education program in the reporting year.	4.08%
Non-traditional Completion	Number of students in under-represented groups who completed a non-traditional secondary career and technical program in the reporting year.	4.73%

The accountability system in Indiana is focused on improving local programs and documenting success in preparing students for further education and training after high school. Data are reported annually by each area vocational district. Statewide information for each Core Indicator is compiled and reported to the federal government. These data provide schools with the information necessary to improve their programs and better meet the needs of students and communities. As of March, 2002, Indiana met or exceeded all expected performance levels listed in the table above.

Indiana's Standards for Career and Technical Programs

Preface for Administrators, School Board Members, and Teachers

Indiana's standards for career and technical education are based on characteristics of quality programs that lead to high student achievement. The standards represent a continuing effort to:

- **assure quality career and technical courses;**
- **motivate students to achieve high levels of technical preparation and extend their abilities to apply and use academic skills and knowledge; and**
- **use student achievement data to evaluate and improve programs.**

These standards were developed through a partnership effort that teamed Department of Education staff members with experienced vocational directors. Public comments about the standards guided development of the final product that was adopted by the State Board of Education in December, 2002. In some cases, examples were written to show how a local program might meet the standard. These examples are not mandates and are not meant to apply to every course.

School personnel and community members are expected to use these standards when planning new career and technical programs after January, 2003. Existing curriculum content standards, available on the Department of Education web site, must be used when designing the instructional components of the program.

The Indiana career and technical program standards and the curriculum content standards should be used together -- the *program* standards as a guide for designing quality courses and the *curriculum content* standards as a guide for developing students' technical skills and academic proficiency.

Standards for All Career and Technical Program Areas

In this technological age, world-class standards for career and technical education are more important than ever. When students graduate and assume adult roles in the community, they will need to demonstrate strong technical and academic skills as well as responsible workplace attitudes and behaviors. Quality programs help schools prepare students for financial independence and a challenging future.

The State of Indiana has established the following universal standards for all career and technical program areas to make clear to administrators, teachers, students, parents, and the public the expectations for establishing, maintaining, and improving high quality courses and programs.

Student Safety
Due to the nature and variety of career and technical programs, a wide range of safety issues needs to be considered during initial planning stages for new programs. These issues include selection and design of facilities, purchase of equipment, and safety gear for students. In addition, safety practices must be taught when preparing students for careers, especially those identified as hazardous by the United States Department of Labor.

Advisory Committees
Planning quality programs that reflect current workplace practices and state-of-the-art training is most effective when representatives from business and industry are involved. By combining employer expertise with educational know-how, advisory committees can assure that the program leads to multiple options for students after high school graduation.

Teacher Licensing
Responding to research that calls for a trained teacher in every classroom, it is required that a licensed educator serve as the instructor in career and technical classes. Although teachers with a baccalaureate degree have formal preparation in teaching strategies and best practices, skilled tradespeople are also quite effective when teaching technical skills that model current workplace practices. Standards and rules adopted by the Indiana Professional Standards Board clearly identify knowledge and skills that must be demonstrated by instructors of career and technical courses.

Curriculum
Content standards for specific career and technical courses, posted on the web, continue to be developed and validated by groups of teachers, administrators, postsecondary representatives, and employers. Programs are designed using the content standards as a foundation for local curriculum activities that develop students' occupational, academic, and employability skills. Content standards for career and technical courses are reviewed during program planning stages to assure that appropriate facilities, equipment, and resources are in place when classes begin.

Standard 1

Student Safety

Safety issues are considered when designing and implementing career and technical programs.

1.1 Safety is taught as an integral part of the instructional program. (511 IAC 8-2-4(b))

Example: Written training plans identify hazardous equipment and materials used by students in extended labs and workplace training stations.

1.2 Safety issues are addressed during all phases of program planning and implementation including selection and maintenance of facilities and equipment as well as management of classroom activities.

Example: All original equipment safety restraints are operational and regularly maintained.

1.3 The Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) standards guide the implementation and maintenance of environmental health and safety features.

Example: Safety zones in manufacturing labs are clearly marked.

1.4 Facilities are accessible to all populations and are appropriate for the instructional program being offered.

Example: Commercial kitchen facilities have been modified so that physically handicapped students can participate in food service programs.

Standard 2

Advisory Committees

A broad-based group with representatives from education, industry, and the community at large actively assists in planning and implementing career and technical programs.

2.1 Advisory committees (general and program area) are organized and meeting as required each school year. (511 IAC 8-2-8)

2.2 Advisory committees meet a minimum of twice per year and maintain accurate minutes of each meeting.

2.3 Membership includes a balanced representation from business/industry, labor, education, males and females, and advocates for racial and ethnic minorities, and the disabled.

2.4 Program advisory committees annually review course standards, curriculum, assessment practices, and resources (including equipment) for appropriateness and effectiveness.

Standard 3

Teacher Licensing

Administrative rules promulgated by the Indiana Professional Standards Board and the State Board of Education are followed when employing teachers for career and technical programs. ***Please note that standards 3.2 through 3.14 are career and technical teacher standards taken directly from "Licensing Rules 2002."***

3.1 All career and technical education teachers possess a valid teaching license for their teaching assignments under rules adopted by the Indiana Professional Standards Board.

3.2 Teachers participate in workshops, conferences, and professional organization activities to remain current in their program area and to meet license renewal requirements.

3.3 Teachers demonstrate knowledge of learners in the instructional process.

3.4 Teachers demonstrate knowledge of content and instructional resources pertaining to basic skills, the world of work, and the skills and processes of industry.

3.5 Teachers create an environment that develops democratic values, risk taking, and a desire for lifelong learning.

3.6 Teachers select from a variety of instructional strategies in performance-based learning of subject matter, critical thinking, and problem-solving.

3.7 Teachers understand and use a variety of assessment and evaluation strategies to assist learners in their intellectual, social, and physical development.

3.8 Teachers reflect on personal practices to improve the effectiveness and quality of learner education.

3.9 Teachers foster collaborative relationships with business, industry, and government in order to extend and enrich opportunities for learners.

3.10 Teachers work with colleagues and the professional community to improve schools and to advance knowledge in the occupational area.

3.11 Teachers foster relationships with families and the local community to achieve common goals for all learners.

3.12 Teachers involve the learners in a variety of activities to help them understand the changing workplace as they prepare to enter the workforce.

3.13 Teachers prepare learners to meet the competing demands and responsibilities of the workplace.

3.14 Teachers assist learners in developing self-awareness and confidence as well as sound personal and social values.

Standard 4

Curriculum

Course content standards clearly define what students should know and be able to do. Locally developed curriculum meets all rules specified in the Indiana Administrative Code for career and technical education.

4.1 State content standards are used as the foundation for local curriculum development and input from the community is considered during the development process.

Example: Local curriculum includes written goals, objectives, and activities that meet state program and content standards.

4.2 Curriculum activities help students apply appropriate English/language arts, mathematics, science, and social studies standards in work-related situations.

Example: Senior projects based on individual career interests are used to demonstrate research, communication, and presentation skills.

4.3 Local curriculum emphasizes the technical, academic, and employability skills needed for success.

Example: Students work in teams to complete assignments based on real-world problems.

4.4 Curriculum is consistent with available state and national industry certification standards.

Example: Classroom activities prepare students for assessments connected to certifications recognized by business and industry.

4.5 Curriculum is aligned with existing postsecondary programs.

Example: Students graduate from high school with college credits leading to technical certificates and associate and baccalaureate degrees.

4.6 Curriculum is connected to available apprenticeship training programs.

Example: Students are prepared to enter apprenticeship programs that extend existing skills and provide on-the-job training.

4.7 A variety of assessment strategies is used to document student achievement.

Example: Students' work products are organized into portfolios to provide evidence that concepts have been learned.

4.8 Each course or program has the resources necessary to implement state standards and local curriculum and to adapt to needs of students.

Example: Facilities and equipment are continuously updated and maintained to model current industry and community conditions.

4.9 Career and Technical Student Organization (CTSO) activities enhance the instructional program.

Example: CTSO activities are used to develop student technical and leadership skills.

4.10 Career pathways are used to identify a sequence of courses that includes a rigorous technical core and academic preparation.

Example: Students' four-year career plans connect elective choices to stated career goals.

4.11 Guidance activities are used to help students affirm or adjust career goals.

Example: Students research postsecondary opportunities for additional training in their career areas.

4.12 Sequenced career and technical courses meet the directed elective requirements of the Core 40 curriculum.

Example: Students earn six or more credits from a related technical area.

4.13 Student data is collected to meet state and federal accountability requirements.

Example: Graduates are contacted to determine placement in further education, advanced training, employment, or military service. [IAC 511 8-2-3 (A)]